THE CARLAT REPORT
CHILD PSYCHIATRY

A CME Publication

Subscribe today!
Call 866-348-9279

UNBIASED INFORMATION FOR CHILD PSYCHIATRISTS

Caroline Fisher, MD, PhD
Editor-in-Chief

Volume 2, Number 4
June 20, 2011
www.thecarlatchildreport.com

IN THIS ISSUE

OCD and Tic Disorders

Learning objectives for this issue:
1. Prescribe a course of treatment for your patients with OCD. **2.** Evaluate and treat Tourette's and tic disorders. **3.** Describe the most common comorbid psychiatric conditions with tic disorders. **4.** Understand some of the current findings in the literature regarding psychiatric treatment.

An Evidence-Based Approach to OCD

Caroline Fisher, MD, PhD
Assistant professor of psychiatry
University of Massachusetts Medical School

Dr. Fisher has disclosed that she has no relevant relationships or financial interests in any commercial company pertaining to this educational activity

In her book, *amen, amen, amen: Memoir of a Girl Who Couldn't Stop Praying (Among Other Things),* Abby Sher describes the onset and course of obsessive compulsive disorder from a child's perspective. From the time of her father's death, she finds herself compelled to make the world safe by kissing things, saying things, and collecting things over and over. Indeed, her world depends on it. It is a poignant reminder of how much the disorder fits into a child's magical thinking.

For our own patients, we can take a less magical approach. Cognitive behavior therapy (CBT) is the mainstay of OCD treatment and has been shown to be more effective and more durable than medication, but it can be insufficient (O'Kearney RT et al, *Behavioural and cognitive behavioural therapy for obsessive compulsive disorder in children and adolescents.* Cochrane Review, The Cochrane Library 2010, Issue 1).

Continued on page 2

Tourette's Syndrome: A Brief Summary

Caroline Fisher, MD, PhD
Assistant professor of psychiatry
University of Massachusetts Medical School

Dr. Fisher has disclosed that she has no relevant relationships or financial interests in any commercial company pertaining to this educational activity

Tourette's syndrome is a disorder of both motor and vocal tics. If you see or hear both of these, you can make the diagnosis with confidence. The media tends to characterize Tourette's by the presence of corprolalia, the disorder of sudden explosions of expletives, but this actually only occurs in about 10% of cases (Singer HS, *Lancet Neurol* 2005;4(3):149–159). Most vocal tics are brief coughs, sniffs, grunts or guttural noises, but vocal tics can be whistles, hums, words, phrases, obscenities, absurdities, echolalia, and even "kissy" noises.

Motor tics can be hard to differentiate from complex motor habits and sometimes from partial seizures and dyskinesias. Motor tics are most often sudden, short, explosive movements involving one muscle group—jerks rather than anything much more complicated: eye blinks, an arm flying up, a bow at the waist are all examples. However, any motor movement could be a tic, and tics are stereotyped in the short term but can change over time. A patient may have frequent bursts of eye blinks for several months, then the eye blinks will stop and a shoulder shrug will begin, only to be replaced by a head twist.

Tics behave oddly. They tend to come in bursts, both in the micro time scale (eg, three tics, then a pause) and in larger time scales (several days of worse tics, then a pause), and in larger time scales than those (a month of multiple episodes of a few days of tics occurring several times in a row, several times a day). A tic diary can help with medication trials, so you know whether the effect is due to the natural cycle of the tics or the medication. Tics are often made more severe by pointing them out, or by anxiety or excitement. They can be triggered by unexpected sensory stimuli—a particular sound or sight can induce a bout of tics. Tics can be controlled in the short term, leading parents and teachers to sometimes conclude they are willful,

Continued on page 4

An Evidence-Based Approach to OCD

Continued from page 1

For example a meta-analysis by Watson et al demonstrated an effect size of 0.48 for medication and 1.45 for CBT (Watson HJ and Rees CS, *J Child Psychol Psychiatry* 2008;49(5):489–498). Marrs Garcia et al found that for children with family histories of OCD, the effectiveness of CBT drops significantly. The accompanying table on page 3 goes through possible pharmacological treatment and augmentation strategies for treatment-resistant OCD (Marrs Garcia A et al, *J Am Acad Child Adolesc Psychiatry* 2010;49(10):1024–1033).

First begin with CBT, exposure and response therapy in particular, but consider medication if 1) the child has a family history of OCD; 2) traditional "by the book" CBT is not readily available; 3) the child's anxiety is so high that he or she is unable to attempt to learn any CBT skills. Practically, that might mean that when a child describes his or her anxiety as a seven or greater on a scale of one to 10, with 10 being the worst. More formally, consider medication if the Yale Brown Obsessive Compulsive Scale (CY-BOCS) is greater than 23 (Mancuso E et al, *J Child Adolesc Psychopharmacol* 2010;20(4):299–308).

Medications Used to Treat OCD

The medication first used is usually an SSRI. Fluvoxamine (Luvox), fluoxetine (Prozac), sertraline (Zoloft) have FDA approval for OCD in children, although there is data to support citalopram (Celexa) and paroxetine (Paxil), as well. Although there is some variation among SSRIs, the average effect size is 0.48 with no significant differences between them (Mancuso ibid). There is evidence that sometimes higher doses of SSRIs are needed to treat OCD, at least in adults (Bloch MH et al, *Mol Psychiatry* 2010; 15(8): 850–855).

The tricyclic antidepressant clomipramine (Anafranil), which is also FDA approved for OCD, has been demonstrated to be superior to SSRIs, with an effect size of 0.85, but is less tolerable to patients and has associated cardiac risks including fatal arrhythmias. Other mixed agents such as venlafaxine (Effexor) may be effective; however, as discussed in previous editions of CCPR, these are not without risk: venlafaxine appears to confer a higher risk of suicidality as well as an uncomfortable withdrawal syndrome.

In treatment resistant cases of OCD, augmentation may be needed. However, be sure it's treatment resistance you are dealing with. Before adding something, try at least two different trials of a serotonergic agent at maximum dose for at least 10 weeks, in combination with adequately delivered CBT. There is also some evidence for concurrent clomipramine and an SSRI. However, there is a drug-drug interaction that may enhance toxicity as well as effectiveness by inhibiting metabolism of clomipramine. Therefore, serum levels and EKG effects should be followed (Mancuso ibid).

Augmenting agents are many but evidence, particularly in children, is lacking. Clonazepam (Klonopin) may lead to memory and learning difficulties and behavioral disinhibition in children. It is best used as a short term augmentation if possible, perhaps for those difficult first weeks until the SSRI takes effect.

Antipsychotic agents have the most evidence to support their use, and, while hardly overwhelming in their effect, they may provide just the thing to push a stubborn case along. They appear more beneficial in children with comorbid tic disorders, mood dysregulation, or behavior disorders. (For a review, see Bloch et al, *Mol Psychiatry* 2006;11(7):622–632.)

Mixed amphetamine (Adderall) and dextroamphetamine (Dexedrine, Vyvanse) is used by some practitioners as an augmenting agent, and given the research that links OCD with ADHD and dopaminergic abnormalities, it's apparent why. The effect appears to be idiosyncratic, however, with some children having a fairly prompt effect, and some experiencing a worsening of symptoms (Mancuso op.cit). There is evidence to link hoarding behavior with ADHD rather than OCD, so these patients may be more likely to respond (Sheppard B et al, *Depress Anxiety* 2010;27(7):667–674).

D-cycloserine is another agent that may help, with a few studies to support its use. (For example, see Storch EA et al, *Biol Psychiatry* 2010;68(11):1073–1076.) Inositol, St. John's Wort, gabapentin (Neurontin), caffeine, sumatriptan (Imitrex), pindolol (Visken), opiates, N-acetyl cysteine, and the glutamate antagonists memantine (Namenda) and riluzole (Rilutek) are other agents that have been tried, by and large with more hope than data (Mancuso op.cit).

Treatment recommendations are to continue treatment for six to 12 months after symptoms remit, then gradually taper by 25% every month or two. Relapse is common, however, and long term maintenance therapy is recommended after two to four episodes of relapse (Mancuso ibid).

❖ ❖ ❖

EDITORIAL INFORMATION

Publisher: **Daniel J. Carlat, MD,** is the founder and editor-in-chief of *The Carlat Psychiatry Report*. He is an associate clinical professor of psychiatry at Tufts University School of Medicine and has a private practice in Newburyport, MA

Editor-in-Chief: **Caroline Fisher, MD, PhD,** is an assistant professor at UMass Medical School, medical director at Pediatric Behavioral Health in West Boylston, MA, and medical director of child psychiatry services at Providence Behavioral Health Hospital

Associate Editor: **Marcia Zuckerman, MD,** is associate editor of *The Carlat Psychiatry Report* and a psychiatrist at Arbour-HRI Hospital in Brookline, MA

Managing Editor: **Amy Harding, MA**

Editorial Board:

Peter Parry, MBBS, is consultant child & adolescent psychiatrist and senior lecturer at Flinders University in Adelaide, Australia

John Preston, PsyD, is a professor emeritus at Alliant International University in Sacramento, CA

Jess Shatkin, MD, MPH, is vice chair for education at NYU Child Study Center at NYU School of Medicine in New York, NY

Dorothy Stubbe, MD, is director of residency training and an associate professor of psychiatry at Yale Child Study Center in New Haven, CT

Ken Talan, MD, is author of *Help Your Child or Teen Get Back on Track* and has a private practice in Amherst, MA

All editorial content is peer reviewed by the editorial board. Dr. Carlat, Dr. Fisher, Dr. Parry, Dr. Preston, Dr. Shatkin, Dr. Stubbe, Dr. Talan, and Dr. Zuckerman have disclosed that they have no relevant financial or other interests in any commercial companies pertaining to this educational activity.

Pharmacological Treatment of OCD in Children and Adolescents

	FDA Indication	Dosing	Evidence Basis	Notes
First Line Medications				
Fluoxetine (Prozac)	Yes	10–60 mg daily	Several large RCT showing effect in children (Mancuso E et al, *J Child Adolesc Psychopharmacol* 2010;20(4):299–308)	
Citalopram (Celexa)	No	10–60 mg daily	Small RCT showing effect in children with OCD (Alaghband-Rad J and Hakimshooshtary M, *Eur Child Adolesc Psychiatry* 2009;18(3):131–135)	
Fluvoxamine (Luvox)	Yes	25–200 mg daily or divided BID; may require 300 mg in adolescents	RCT of 120 subjects ages 8-18 (Riddle MA et al, *J Am Acad Child Adolesc Psychiatry* 2001;40(2):222–229)	No evidence it is better or worse than other SSRIs for OCD
Paroxetine (Paxil)	No	10–60 mg daily	RCT of 207 patients ages 7-17 (Geller DA et al, *J Am Acad Child Adolesc Psychiatry* 2004;43(11):1387–1396)	
Sertraline (Zoloft)	Yes	50–250 mg daily	Large RCT in kids (POTS, *JAMA* 2004;292(16):1969–1976)	
Clomipramine (Anafranil)	Yes	25 mg to start: titrate to 3 mg/kg/day max 200 mg/day	Several studies (Geller op.cit; Foa EA et al, *Am J Psychiatry* 2005;162(1):151–61)	Follow EKG. Beware of metabolic inhibition by SSRIs if used concurrently
Second Line Medications				
Second trial of first line agent			(Mancuso op.cit)	
Venlafaxine (Effexor)	No	12.5 mg to start: titrate up to 150 mg daily, divided TID if not using the extended release formulation	Small RCT in adults (Dell'osso B et al, *J Psychopharmacol* 2008;22(2):210–213)	Complex withdrawal syndrome, higher risk of suicidality
Duloxetine (Cymbalta)	No	No prescribing guidelines for children. Adult dosing 30–60 mg daily	Hypothetical (mancuso op.cit), no direct evidence	May cause liver failure
Augmentation Agents				
SSRI+clomipramine	No	No prescribing guidelines for augmentation. Follow serum clomipramine levels as SSRIs will increase serum clomipramine	7 patient open label study in children (Figueroa Y et al, *J Child Adolesc Psychopharmacol* 1998;8(1):61–67), and also suggested by experts (mancuso op.cit)	Follow EKG. Beware of metabolic inhibition by SSRIs if used concurrently
Aripiprazole (Abilify)	No	2–20 mg at night: mean study dose 12 mg	Open label study of 39 adolescent patients (Masi G et al, *J Clin Psychopharmacol* 2010;30(6):688–689)	May benefit patients with comorbid tics more than those without tics
Quetiapine (Seroquel)	No	25–200 mg daily or divided BID	A few RCT in adults (Savas HA et al, *Clin Drug Investig* 2008;28(7):439–442)	May benefit patients with comorbid tics more than those without tics
Risperidone (Risperdal)	No	1–2 mg daily	One case series of 17 child/adolescent patients (Thomsen PH, *Ann Clin Psychiatry* 2004;6(4):201–207). More in adults (Bloch et al, *Mol Psychiatry* 2006;11(7):622–632)	May benefit patients with comorbid tics more than those without tics
Haloperidol (Haldol)	No	2–10 mg daily	See review in adults (Bloch ibid)	May benefit patients with comorbid tics more than those without tics
Clonazepam (Klonopin)	No	0.5–2 mg daily	Not effective in early RCT in adults, either as mono therapy or augmentation (Hollander E et al, World J Biol Psychiatry 2003;4(1):30-34)	Often used, sometimes with good results but may impair learning
Lorazepam (Ativan)	No	0.25mg–2mg daily	No data	Often used, sometimes with good results but may impair learning, see Matthews A et al, *J Psychopharmacol* 2002;16(4):345–354
Amphetamine, d-amphetamine	No	10–20 mg daily, 5–10 mg for d-amphetamine	RCT in 23 adults (Koran LM et al, *J Clin Psychiatry* 2009;70(11):1530–1535), case series in children (Owley T et al, *J Child Adolesc Psychopharmacol* 2002;12(2):165–171)	Koran study demonstrated caffeine, the control condition, equally effective

NOTE: Please visit our website www.thecarlatchildreport.com for a larger version of this table, including the evidence on a number of other potential augmentation agents.

Tourette's Syndrome: A Brief Summary

Continued from page 1

but the suppression builds up tension that then requires release. It's a bit like suppressing a sneeze. Some children will "hold" their tics until then can go to a private place, then tic many times before coming out again. This ability to wait to express a tic is the basis for one of the most successful treatment approaches, habit reversal training.

Tics commonly emerge between the ages of three and seven, are generally worst around age 10 to 12, and then decrease throughout adolescence, although they can persist into adulthood. Motor tics usually come first, followed by vocal tics a few years later. Simple tics usually precede more complex ones. Obsessive compulsive disorder and attention deficit disorder are common comorbidities—the majority of patients with Tourette's syndrome have at least one if not both additional disorders.

Comorbid ADHD presents a lifelong course as it does in other ADHD sufferers, while comorbid OCD behaves differently. The OCD tends to emerge as the tics are resolving in adolescence, and may spontaneously resolve in early adulthood. Compulsions can be difficult to differentiate from tics, but the premonitory feeling or urge is different, so your best bet is to ask the patient whether it feels like a tic or a compulsion.

There are some differences in the expression of OCD among those with comorbid Tourette's and those with garden variety OCD. For example, TS patients tend to have obsessions centered on symmetry and getting things "just right"; in addition, they tend to have more violent and sexual obsessions, are more often male, have an earlier age of onset, and may be less responsive to treatment with SSRIs. They also report more touching, counting, blinking and staring obsessions; whereas patients with OCD without Tourette's report more contamination obsessions and washing behaviors (Miguel EC et al, *Mol Psychiatry* 2005;10(3):258–275;Miguel EC et al, *Adv Neurol* 2001;85:43–55).

Disruptive behavior and anger outbursts are also common with tic disorders. These may be a manifestation of the emotional impulsivity of ADHD rather than a separate syndrome. Learning disabilities, mood disorders, and other impulse control disorders can also occur.

The approach to treatment of children with Tourette's is to first assess the patient for symptoms of ADHD, OCD, and other psychiatric disorders, then determine which bothers the child the most. Parents often focus on the tics, but that may not be the source of the greatest functional impairment. If OCD or ADHD appears to be causing the most trouble, treat either as you would the isolated disorder. Decreasing anxiety often improves both focus and tics, and increasing focus often improves both anxiety and tics. As Dr. Coffey points out in this issue's Expert Q&A, tics do not necessarily worsen, and may in fact improve, when the patient is given stimulants.

If the tics are the most impairing disorder for your patient, habit reversal training is first line treatment. (See the sidebar for a review of this.) Sometimes, however, medication is needed. First line medication treatment is alpha-adrenergic blockers (such as guanfacine 1 mg to 2 mg daily) or clonidine (0.05 mg to 0.2 mg three or four times a day)—more due to safety than efficacy. They don't work for everyone but they are much safer for those they do help. The FDA approved treatment is low-dose, high potency neuroleptics, haloperidol (Haldol) or pimozide (Orap), 0.5 mg daily of either, but due to the long term risks, newer high potency antipsychotics such as

Continued on page 6

Habit Reversal Training: Optimal Treatment for Tics

Habit reversal training (HRT) is a form of Cognitive Behavioral Therapy that systematically targets tics. The idea behind HRT is that even though tics are generated neurobiologically, they are enhanced by conditioning. Specifically, the urge to have a tic is uncomfortable, and by having one, the discomfort is removed in the short term. The tic is therefore rewarding, and the behavior is reinforced. The more tics one has, the more difficult it becomes to stop having them. In HRT, the object is to refrain from having the tic until the urge passes.

Below is a step by step guide to the basics:

- First, the child is taught to recognize when a tic is coming, either by noting the premonitory urge or by the first muscle movements of the tic itself. This is practiced until the child learns to reliably predict tics. (An approach for children who find it difficult to recognize the premonitory urge is to time the frequency of the tics, and then challenge him or her to increase the time between tics, moving perhaps from having a tic every few seconds to having them several minutes apart.)
- The child is taught to make a competing movement using the same muscle groups: for example, if the tic is to make a kissy noise, the child is taught to blow out or whistle. If the tic is to twist the head to the right, the child is taught to actively move the head left, or make circles with the head. This motion is continued for a few minutes until the urge to tic passes.
- Often, the child is encouraged to keep a tic diary. Because tics can be worsened or induced by specific situations, this helps identify those situations, and strategies to reduce the influence of those situations are devised.
- General relaxation and anxiety reducing strategies are also taught, because anxiety itself worsens tics.
- When a child uses these skills—even when they are not immediately effective—**he or she must be rewarded.** To that end, therapists work with the family to increase the social support for the child's use of the strategies in situations outside the therapy office.

The use of competing movements itself is not the therapeutic intervention. Rather, it is the consistent experience of not giving in to the urge to tic that reduces tics overall. Psychoeducation is particularly important, or you risk families thinking you have merely substituted one bizarre motion for another. Habit reversal has been shown to be effective in reducing tics in several studies (for a review, see Himle MB et al, *J Child Neurol* 2006;21(8):719–725). Although the studies are small and conducted in both children and adults, the outcomes were excellent. The majority of subjects experienced a 50% to 99% reduction in tics. The improvement was generally maintained over the length of the follow up period, the longest of which was six months.

Q&A With the Expert

Expert Interview

Tic Disorders and Comorbid Conditions

Barbara Coffey, MD

Associate professor of psychiatry
New York University School of Medicine

Dr. Coffey has disclosed that she has received grant/research support from Boehringer Ingelheim, Bristol Myers Squibb, Otsuka, and Shire Pharmaceuticals. Dr. Fisher has reviewed this interview and found no evidence of bias in this educational activity.

CCPR: Dr. Coffey, you are a leading expert in tics and Tourette's syndrome. Can you give us some background on your special interest in these conditions?

Dr. Coffey: I am the director of the clinical and research programs for tics and Tourette's at NYU. Before that I was in Boston at McLean and Massachusetts General Hospitals. My interest in Tourette's and tic disorders developed about 25 years ago, right after my medical training when I was working in a neurology clinic. I am particularly interested in the relationship between tic disorders and common comorbid conditions, such as ADHD and OCD.

CCPR: That "unholy trinity" of OCD, ADHD, and tic disorder is a great challenge to many psychiatrists.

Dr. Coffey: A colleague, Dr. Cathy Budman, found that if you look at kids who come to a Tourette's clinic with explosive outbursts, they are much more likely to have this trio than kids without outbursts (Budman CL et al, *J Am Acad Child Adolesc Psychiatry* 2000;39(10):1270–1276). It is that combination of impulsivity and compulsivity that is so challenging.

CCPR: Well, let's break it down piece by piece, discussing these conditions as they relate to just tic disorder, and the relationship between the three. Let's begin with OCD.

Dr. Coffey: Sometimes complex motor tics and OCD compulsions can be difficult to differentiate, since both are related to urges to perform some type of activity or movement. I was involved in a study at Mass General in which we asked adults with OCD only, Tourette's only, and a group with both OCD and Tourette's to tell us about their repetitive behaviors. Then we developed a scale to rate what went on before (premonitory), during, and after the repetitive behaviors, in particular cognitive phenomena, such as a concern or worry, and sensory motor phenomena, such as a physical urge.

CCRP: And what did you learn?

Dr. Coffey: We found these adult patients could often differentiate their repetitive behaviors based on their premonitory experience or during the repetitive behavior experience. We found that OCD-only patients had cognitive phenomena, such as thoughts or worries, as you would expect, before their repetitive behaviors, while Tourette's-only patients had sensory motor experiences—a physiologic urge that built up inside. And patients with Tourette's plus OCD had both. And they could literally tell us with every single behavior whether it was a tic or a compulsion (Miguel EC et al, *J Clin Psychiatry* 1995;56(6):246–255). At the time, I had a graduate student who studied the same thing in children ages nine to 17, and while she never published the research, she found the same exact result.

CCPR: So what do you do with that information?

Dr. Coffey: The next step would be to think about appropriate treatment: for example, maybe we could treat the cognitive phenomena prior to repetitive behaviors with an SSRI, and the repetitive behaviors preceded by sensory motor experiences with tic suppressing medication such as alpha adrenergic agonists and antipsychotics. There are not a lot of studies looking at treatment for tics and OCD. But, generally, we will start with a trial of one SSRI, then switch to a second if the first one is not effective or is not tolerated, and then start to augment if necessary before finally switching to clomipramine (Anafranil). There is some data that augmentation with an antipsychotic is particularly helpful for the OCD in kids with the combination of these conditions (Goodman WK et al, *J Child Neurol* 2006;21(8):704–714).

CCPR: And how does ADHD fit into this?

Dr. Coffey: About half the kids who walk in the door to a Tourette's clinic will have ADHD—not always diagnosed, depending on how old they are and how prominent the tics are (Mol Debes NM et al, *J Child Neurol* 2008;23(9):1017–1027).

CCPR: And how do these three conditions relate in terms of course of illness?

Dr. Coffey: The most recent evidence suggests that most kids' tics will get better over time, but the comorbidities may not. Sometimes OCD gets better or may worsen after tics attenuate, but usually ADHD doesn't go away. It sometimes changes from primarily hyperactive to maybe more inattentive for example, but it doesn't stop. A 1998 study found that lifetime peak for tics was around age nine to age 11 (Leckman JF et al, *Pediatrics* 1998;102(1):14–19). There might still be some tics after that, but tic-related impairment, which is really the most clinically meaningful component, drops out considerably after puberty. So we think there is a phenomenon of tics getting better, and then OCD kicking in, and ADHD, if they have it, persisting (Spencer T et al, *Child Psychol Psychiatry* 1998;39(7):1037–1044; Coffey BJ et al, *J Nerv Ment Dis* 2004;192(11):776–780).

CCPR: So if a patient has a tic disorder with one or both of these comorbidities, how do you decide what to treat?

Dr. Coffey: I believe in the very simple approach of asking the parents, teachers,

Continued on page 6

Expert Interview *Continued from page 5*

and especially the child: which is the most problematic or impairing? It is interesting that many times, especially with younger children, parents are more concerned about the tics than the kids are. We don't treat tics unless they are getting in the child's way functionally or causing the child distress, neither of which necessarily correlate with tic severity. Sometimes a child might appear to have very mild tics by standardized ratings, but in fact is in deep distress about it, and so we will go ahead and treat on that basis. So we start treating the most impairing symptom or comorbid disorder first, with the idea that if we can improve ADHD or OCD, the tics might indirectly get better.

CCPR: Let's say you get the comorbid condition under control, but the tics are still bothersome. Then what?

Dr. Coffey: For treating tics, I use an algorithm that puts habit reversal therapy first. Then we try an alpha adrenergic agonist, clonidine (Catapres) or guanfacine (Tenex). After that, the standard of care is risperidone (Risperdal), but because of all of its side effects, my preference for the next step is aripiprazole (Abilify). If you still have problematic tics after that, you can combine an alpha adrenergic agonist with an atypical antipsychotic. Way down near the end of the list, I will try a typical antipsychotic, such as haloperidol (Haldol) or pimozide (Orap). There are much more experimental treatments, without much data, such as pramipexole (Mirapex), baclofen (Lioresal), botulin toxin (Botox). Way at the bottom of the algorithm is deep brain stimulation, but I would not recommend going around suggesting that to parents!

CCPR: Tell us more about your first line choice, habit reversal therapy?

Dr. Coffey: This is a type of cognitive behavior therapy that is terrific for tics. A recent study looked at 126 kids, randomized to either habit reversal therapy or the comparative treatment, which was supportive therapy, with unstructured psychoeducation. The habit reversal therapy was far superior to the supportive therapy with an effect size of 0.68, which is comparable to the best medicines that you can use—and there are no side effects (Piacentini J, *JAMA* 2010;303(19):1929–1937). It's only been studied in kids age nine to age 17, but as long as a child has enough self-awareness, it should work. And, as it is manualized, (Woods, D et al, *Managing Tourette Syndrome.* Oxford, UK:Oxford University Press;2008) any good child CBT therapist can figure this out so you don't have to go searching around for someone to do it.

CCPR: How about stimulants for tics?

Dr. Coffey: There's an idea that stimulants aren't good for kids with tics, but that's just not true. If you go to the Physicians' Desk Reference it still says that methylphenidate-based stimulants are contraindicated in the treatment of a child with Tourette's or chronic tics, or even one who has a family history of these conditions. This is not the case for the amphetamines. This is amazing, considering the only head to head data we have shows that methylphenidate stimulants are better tolerated than the amphetamines in kids with Tourette's and ADHD (Castellanos FX et al, *J Am Acad Child Adolesc Psychiatry* 1997;36(5):589–596).

CCPR: So methylphenidate is a good choice for kids with comorbid tics and ADHD?

Dr. Coffey: Yes. In the '90s there was a small study of kids with Tourette's and ADHD that found a minor increase in tics in kids treated with methylphenidate. However, their ADHD was so much better that parents didn't care about slightly more frequent tics. This group replicated the study in 2007 with the same results in a larger sample (Gadow KD et al, *Arch Gen Psychiatry* 1995;52(6):444–455;Gadow KD et al, *J Am Acad Child Adolesc Psychiatry* 2007; 46; 840–848). In 2002 we published the TACT Study, Treatment of Children with ADHD in Tic Disorders. This was a four arm trial with a clonidine alone arm; a methylphenidate alone arm; a methylphenidate plus clonidine arm; and a placebo arm. We found, as expected, that the kids on the combination of stimulant and clonidine did best in terms of both ADHD symptoms and tics. We were surprised to see that kids on methylphenidate alone not only saw their ADHD improve, but the tics got better too (Tourette Syndrome Study Group; *Neurology* 2002;58:527–536).

CCPR: Is there anything new on the frontier for these kids?

Dr. Coffey: There are some new clinical trials cropping up. A large group, called the Tourette Syndrome Association Clinical Trials Consortium, has been organized and is planning studies on "proof of concept" and potential tic suppressing medications with different mechanisms of action. I have to say the best advance in the last five years is proving that habit reversal therapy works. It has no side effects and kids and parents love it—what's not to like? Next will be to consider trials with a combination of medication and habit reversal therapy, particularly for tics and the comorbid disorders. So this is a direction our energy will be going in.

CCPR: Thank you, Dr. Coffey.

Tourette's Syndrome: A Brief Summary *Continued from page 4*

risperidone (Risperdal) or aripiprazole (Abilify) are preferred by most physicians. Low dosing is still generally appropriate, 0.25mg to 0.5 mg of risperidone or 1 mg to 2 mg of aripiprazole is a good place to start.

An important intervention is educating the patient, family, teachers, and peers. To this end, the Tourette's Syndrome Association maintains an excellent website and educational material for both patients and clinicians, including videos, a newsletter written by kids with Tourette's, research links, conferences, lobbying, and activities. They even have their own drug study! You can visit the site at www.tsa-usa.org. You may also want to check out the Emmy Award winning HBO documentary, "I Have Tourette's, But Tourette's Doesn't Have Me."

Information from the following sources was used in this article: Leckman JF, Brain Dev 2003;25(Suppl 1):S24–S28; Grados MA and Mathews CA, J Psychosom Res 2009;67(6):491–496.

❖ ❖ ❖

Research Updates IN PSYCHIATRY

AUTISM

Which Treatments for Autism Spectrum Disorders Actually Work?

The overwhelming prevalence of autism and autism spectrum disorders (ASDs) has led to almost countless interventions for children and adolescents with these diagnoses. They range from school based educational programs, to medications, to alternative therapies like acupuncture and massage. Anecdotally, some of these interventions do wonders for some kids, but do we really have scientific proof that any of them work?

A recent review by the federal Agency for Healthcare Research and Quality examined the evidence for a number of interventions. After wading through more than 4,000 studies related to therapies for children with ASDs, the agency found 183 articles that could be considered based on their rigorous standards (which took into account factors such as age of participants, study size, if the research was original, and whether the data was presented in a way that could be abstracted). All types of study designs except single case reports were considered.

The review looked at studies of behavioral, educational, medical, allied health (such as occupational and speech therapy), and complementary interventions. The researchers aimed to answer questions related to outcomes and generalizability of results.

What did they find? Not much. The only interventions that showed strong

Continued on page 8

CME Post-Test

CME Notice: The test below is intended to be for **practice only.** All subscribers must take their tests online at www.thecarlatchildreport.com. If you cannot take your test online, please call 866-348-9279 or email info@thecarlatreport.com.

To earn CME or CE credit, you must read the articles and log on to www.TheCarlatChildReport.com to take the post test. You must answer at least four questions correctly to earn credit. You will be given two attempts to pass the test. Tests must be taken by June 14, 2012. As a subscriber to *CCPR,* you already have a username and password to log on www.TheCarlatChildReport.com. To obtain your username and password, please email info@thecarlatreport.com or call 978-499-0583.

The Clearview CME Institute is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. Clearview CME Institute is also approved by the American Psychological Association to sponsor continuing education for psychologists. Clearview CME Institute maintains responsibility for this program and its content. Clearview CME Institute designates this enduring material educational activity for a maximum of one (1) *AMA PRA Category 1 Credit*™ or 1 CE for psychologists. Physicians or psychologists should claim credit commensurate only with the extent of their participation in the activity.

Below are the questions for this month's CME post test. This page is intended as a study guide. Please complete the test online at www.TheCarlatChildReport.com. Note: Learning objectives are listed on page 1.

1. The medication that is usually used first to treat OCD in children and adolescents is which of the following (Learning Objective #1)?
   [ ] a. clonazepam (Klonopin) [ ] b. SSRIs
   [ ] c. opiates [ ] d. stimulants

2. In the course of tic disorders, simple tics usually precede more complex ones (LO #2).
   [ ] a. True [ ] b. False

3. As part of habit reversal training, a child is taught to recognize when a tic is coming and then do what (LO #2)?
   [ ] a. engage in an activity to distract from the urge to tic
   [ ] b. go someplace private to tic
   [ ] c. imagine him or herself NOT doing to the tic
   [ ] d. make a competing movement using the same muscle groups

4. In the Treatment of Children with ADHD in Tic Disorders (TACT) study, the majority of children with comorbid tic disorders and ADHD who took methylphenidate alone saw their ADHD improve, but their tics get worse (LO #3).
   [ ] a. True [ ] b. False

5. Among the treatments for behavioral problems associated with autism and autism spectrum disorders studied by the AHRQ, which of the following had the most evidence for effectiveness (LO #4)?
   [ ] a. risperidone (Risperdal) [ ] b. social skills training
   [ ] c. play therapy [ ] d. sensory integration

PLEASE NOTE: WE CAN AWARD CME CREDIT ONLY TO PAID SUBSCRIBERS

Continued from page 7

evidence of effectiveness were risperidone (Risperdal) and aripiprazole (Abilify) for behavioral problems related to ASDs, but not for the social and communication issues that accompany them. It should be noted, too, the researchers found equally strong evidence that these two meds can cause major side effects, recommending they are best for kids with "severe impairment or risk of injury."

There was some evidence that "early and intensive" behavioral interventions led to improvements in cognitive performance, language skills, and adaptive behavior skills when compared to "eclectic treatments." However, these things have not been compared in any head to head trials.

Researchers found the evidence to be insufficient for social skills training, play therapy, cognitive behavioral therapy, sensory or auditory integration, speech and language therapy, and complementary medicine (Warren Z et al, *Comparative Effectiveness Review* 2011;Review Number 26).

CCPR's Take: The conclusion of this study is not that most therapies don't work, it is that there isn't sufficient evidence to say whether they do or don't. It shouldn't be a big surprise that the most compelling evidence is for medical interventions, since this is where you are most likely to find the best study designs, such as randomized controlled studies. (Talk, play, occupational and physical therapies are very hard to blind participants to.) If you have a free month on your calendar, you can read the 900 page report on the AHRQ website at: http://bit.ly/lGILSR. The 20-page summary simplifies the results: http://bit.ly/f1q2jY.

THE CARLAT REPORT: CHILD PSYCHIATRY
P.O. Box 626
Newburyport, MA 01950

PRSRT STD
US Postage
PAID
Nashville, TN
Permit 989